



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,864	11/19/2001	Cheng-Ku Chen	67,200-600	4851

7590 02/06/2004

TUNG & ASSOCIATES  
Suite 120  
838 W. Long Lake Road  
Bloomfield Hills, MI 48302

EXAMINER

PHAM, LONG

ART UNIT	PAPER NUMBER
----------	--------------

2814

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/996,864

Applicant(s)

CHEN ET AL.

Examiner

Long Pham

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 8-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) \_\_\_\_\_ since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Rejections and/or objections as previously applied*

#### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1, 2, 3, and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aminpur et al. (US '726).

With respect to claim 1, Aminpur et al. teaches a semiconductor device where during fabrication the semiconductor device comprises:  
a primary layer 515 having a desired or specification or design dimension, fig. 5;

a lower layer 540 over the primary layer, fig. 5;

an upper layer over the lower layer, the upper layer having a high-etching selectivity as compared to the lower layer, fig.5 and col. 6, lines 53-55.

With respect to claim 3, Aminpur et al. further teach the primary layer comprises of a polysilicon layer. See col. 5, lines 10-15.

With respect to claims 4-7, Aminpur et al. further teach the lower and upper layers are made of Si<sub>3</sub>N<sub>4</sub>, SiON, or SiO<sub>2</sub>. See col. 5, lines 40-50.

With respect to claim 2, Aminpur et al. fail to teach a thin oxide layer or pad oxide is located between the lower or mask layer and the polysilicon gate or primary layer.

However, the formation of a pad oxide between two layers for preventing damage to the surface underlying layer, producing uniformity of surface of the underlying layer, or relieving stress is well-known to one of ordinary skill in the art of making semiconductor devices.

Note that the limitations added to claims 1 and 2 are process limitations and are given no weight in the determination of the patentability of device claims 1 and

Art Unit: 2814

2 because process limitation carries no weight in determination of the patentability of a device claim unless it produces some structural or material differences.

2. Claims 17, 18, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aminpur et al. (US '726).

With respect to claim 17, Aminpur et al. teaches a semiconductor device comprises:

a primary layer 515 having a critical dimension specification on a wafer 505;  
a gate formed from the primary layer.

With respect to claim 18, Aminpur et al. fail to teach a thin oxide layer or pad oxide is located between the lower or mask layer and the polysilicon gate or primary layer.

However, the formation of a pad oxide between two layers for preventing damage to the surface underlying layer, producing uniformity of surface of the underlying layer, or relieving stress is well-known to one of ordinary skill in the art of making semiconductor devices.

With respect to claims 19-20, Aminpur et al. further teach the lower and upper layers are made of  $\text{Si}_3\text{N}_4$ ,  $\text{SiON}$ , or  $\text{SiO}_2$ . See col. 5, lines 40-50.

Note that the limitations added to claims 17 and 18 are process limitations and are given no weight in the determination of the patentability of device claims 17 and 18 because process limitation carries no weight in determination of the patentability of a device claim unless it produces some structural or material differences.

---

***Conclusion***

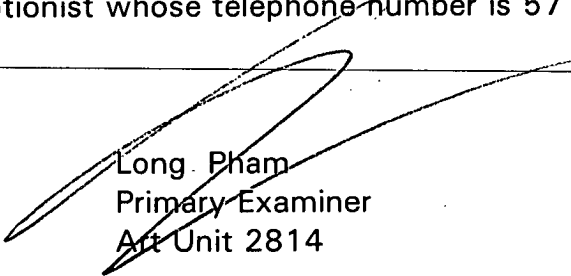
3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Long Pham whose telephone number is 571-272-1714. The examiner can normally be reached on M-F, 10:00AM-6:00PM. The examiner's personal fax number is 571-273-1714.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1716.



Long Pham  
Primary Examiner  
Art Unit 2814

LP